

IBM DDS Generation 6 USB Tape Drive

IBM System x at-a-glance guide

The IBM DDS Generation 6 Internal USB Tape Drive provides optimum capacity, performance, and a low total cost of ownership for small and medium business environments or enterprise workgroups that require the highest capacity and performance DDS (DAT) drive available. The drive supports DDS Generation 6 cartridges, which have a native capacity of 80 GB (160 GB compressed), as well as a transfer rate of up to 6.9 MBps native and up to 13.8 MBps compressed.

Figure 1 shows the DDS Generation 6 USB Tape Drive.



Figure 1. The DDS Generation 6 USB Tape Drive (5.25-inch form factor)

Did You Know?

The IBM DDS Generation 6 USB Tape Drive maintains the competitive total cost of ownership of Digital Data Storage. Its USB interface supports Plug and Play capability with the latest System x systems, and can be installed internally in supported servers or supported externally in tape drive enclosures. This option is a higher performance and capacity alternative to the IBM DDS Generation 5 drive.

Part number information

Table 1 lists the ordering part numbers and feature codes.

Table 1. Ordering part numbers and feature codes

Description	Part number	Feature code
DDS Generation 6 USB Tape Drive	39M5636	5395 or 5398
IBM DDS Generation 6 Media 5 Pack	44E8864	Not available
IBM DDS Generation 6 Cleaning Cartridge	49Y9894*	Not available

* Planned for May 2011

The part number for the DDS Generation 6 USB Tape Drive includes the following items:

- DDS Generation 6 USB Tape Drive (5.25-inch form factor)
- Mounting screws
- CD-ROM containing the *DDS Generation 6 USB Tape Drive User's Guide*
- Cleaning cartridge
- Four USB cables for internal tape connectivity:
 - 14-inch USB cable with type 2x3 connector x3105, x3200 and x3200 M2
 - 28-inch USB cable with type B connector for x3400 and x3500
 - 12.5-inch USB cable with type 1x6 connector x3650 and x3655
 - 40-inch USB cable with type A locking connector for all other supported systems

The drive can be converted to a 3.5-inch form factor for use in some rack optimized servers, which we describe later in the section "Supported Servers."

Figure 2 shows the supported media and cleaning cartridge.



Figure 2. Media and cleaning cartridge

Features

The DDS Generation 6 USB Tape Drive has the following features:

- Highest capacity and performance in the DDS portfolio
- 5.25-inch half-high form factor; drive can be converted to 3.5 inch form factor either in the factory (CTO) or in the field using the appropriate enablement kit
- Internal USB interface for simplified Plug and Play installation
- Optional DDS Tape Enablement Kit allows for internal installation in select IBM System x rack-optimized servers
- Flexible external USB configuration offerings when used with desktop, 1U rack-mount, or 4U rack-mount enclosures

Specifications

The DDS Generation 6 USB Tape Drive has the following specifications:

- Up to 80 GB native capacity, and up to 160 GB in compressed mode
- 6.9 MBps native back-up rate and up to 13.8 MBps in compressed mode
- USB 2.0 interface
- Read/write compatibility with DDS Gen-5 and DDS-4 cartridges

Physical specifications

The DDS Generation 6 USB Tape Drive has the following physical specifications:

- Height: 46 mm (1.8 in)
- Width: 146 mm (5.7 in)
- Depth: 152 mm (5.9 in)
- Weight: 1.2 kg (2.7 lb)

Operating environment

The DDS Generation 6 USB Tape Drive is supported in the following environment:

- Temperature:
 - Operating: 5° to 45°C (41° to 113°F)
 - Non-operating: -40° to 70°C (-40° to 158°F)
- Relative humidity:
 - Operating: 20% to 80% (non-condensing)
 - Non-operating: 5% to 95% (non-condensing)

Warranty

The DDS Generation 6 USB Tape Drive has a one-year limited warranty. When installed in a System x server, this tape drive assumes your system's base warranty and any IBM ServicePac upgrade.

The IBM DDS Generation 6 Media 5 Pack has a limited lifetime warranty.

Supported servers

The DDS Generation 6 USB Tape Drive is supported in the IBM System x servers listed in Table 2.

Table 2. Supported System x servers (Part 1)

Adapter	x3100 M3	x3200 M2	x3200 M3	x3250 M2	x3250 M3	x3350	x3400	x3400 M2	x3400 M3	x3455	x3500	x3500 M2	x3500 M3
DDS Generation 6 USB Tape Drive (external)	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
DDS Generation 6 USB Tape Drive (internal)	N	Y	Y	N	N	N	Y	Y	Y	N	Y	Y	Y

Table 2. Supported System x servers (Part 2)

Adapter	x3550	x3550 M2	x3550 M3	x3620 M3	x3630 M3	x3650	x3650 T	x3650 M2	x3650 M3	x3655	x3690 X5	x3755	x3755 M3	x3850 M2	x3950 M2	x3850 X5
DDS Generation 6 USB Tape Drive (external)	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y*	Y*	N
DDS Generation 6 USB Tape Drive (internal)	N	N	N	Y†	N	Y†	N	Y†	Y†	Y†	N	N	Y†	N	N	N

* The tape drive is supported externally attached to the x3850 M2/x3950 M2 machine type 7233 only. It is not supported with the x3850 M2/x3950 M2 machine type 7141.

† To use the tape drive internally in these servers, the drive is converted to a 3.5-inch form factor, as described in the next section

Internal installation

The DDS Generation 6 USB Tape Drive can be installed internally in specific servers as listed in Table 2. Except where noted, the DDS Generation 6 USB Tape Drive is installed in its standard 5.25-inch form factor.

As listed with a † symbol in Table 2, various servers support the tape drive mounted internally with the addition of a 3.5-inch tape enablement kit. Table 2 also lists the servers in which each enablement kit is supported.

Table 3. The 3.5-inch enablement kits for use with the DDS Generation 6 USB Tape Drive

Description	Part number	Feature code	x3620 M3	x3650	x3650 M2	x3650 M3	x3655	x3755 M3
IBM DDS Tape Enablement Kit	43V5959	5387 / 4873‡	N	Y	N	N	Y*	N
IBM System x3650 M2 RDX-DDS Tape Enablement Kit	49Y9883	7551	N	N	Y	N	N	N
Tape Enablement Kit option for IBM System x3650 M3	59Y3806	1746	N	N	N	Y	N	N
IBM x3620 M3 Tape Enablement Kit	69Y0798	6419	Y	N	N	N	N	N
Tape Enablement Kit for x3755 M3	69Y1456	4787	N	N	N	N	N	Y†

* The installation of IBM DDS Tape Enablement Kit in an x3655 is in the field only. Installation is not available as a factory installation (CTO) option.

‡ Feature 4873 is for 2.5 inch disk drive models of the x3650, 5387 is for 3.5 inch disk drive models of the x3650

† The tape drive enablement kit for the x3755 M3 is only supported in systems with a simple-swap backplane and drives

Figure 3 shows the tape drive installed in the IBM DDS Tape Enablement Kit. This kit converts the tape drive to a 3.5-inch form factor for installation in supports servers (see Table 3).



Figure 3. DDS Generation 6 USB Tape Drive installed in the IBM DDS Tape Enablement Kit

See IBM ServerProven for the latest information about the devices supported by each System x server type: <http://ibm.com/servers/eserver/serverproven/compat/us/>

External use

The tape drive is supported when connected externally to the server using one of the following enclosures and as listed in Table 4:

- IBM 1U Rackmount Tape Enclosure
- IBM 4U Rackmount Tape Enclosure (withdrawn)
- IBM Half High Tabletop Tape Enclosure

Note: Each of these enclosures also requires an IBM USB Enclosure Adapter Kit, 44E8869, to route the USB cabling from the tape drive to the rear of the enclosure. The IBM USB Enclosure Adapter Kit includes the following components:

- USB adapter/connector
- One 3 m (12 ft) USB cable
- One 25 cm (1 ft) USB cable

Table 4. External enclosures for use with the DDS Generation 6 USB Tape Drive

Description	Part number	Feature code
IBM 1U Rackmount Tape Enclosure (See Figure 3)	87651UX (AG)* 87651NX (AP and EMEA)†	8765HC1 fc 2290
IBM 4U Rackmount Tape Enclosure (withdrawn)	87664UX (AG)* 87664NX (AP and EMEA)†	Not available (product is withdrawn)
IBM Half High Tabletop Tape Enclosure (See Figure 4)	8767HHX (AG)* 87671NX (AP and EMEA)†	8767HC1 fc 2287
IBM USB Enclosure Adapter Kit‡	44E8869	5396

* These models are for customers in the Americas Group (AG - Canada, U.S., and countries in South America). These models ship with a NEMA 5-15P line cord.

† These models are for customers in the countries known collectively as Asia Pacific (AP) and Europe, Middle East, Africa (EMEA). These models do not ship with a line cord.

‡ See the above note.

For the latest information about supported enclosures and kits, see:

<http://ibm.com/servers/eserver/serverproven/compat/us/tape/39M5636.html>

Figure 4 shows the tape drive installed in the IBM 1U Rackmount Tape Enclosure (87651UX).



Figure 4. DDS Generation 6 USB Tape Drive installed in the 1U Rackmount Tape Enclosure

Figure 5 shows the tape drive installed in the IBM Half High Tabletop Tape Enclosure (8767HHX).



Figure 5. DDS Generation 6 USB Tape Drive installed in the Half High Tabletop Tape Enclosure

Popular configurations

This section illustrates how the DDS Generation 6 USB Tape Drive can be used in configurations.

Internal installation in an x3650 M3 server

Figure 6 shows the DDS Generation 6 USB Tape Drive installed internally in an x3650 M3 server. This configuration uses the Tape Enablement Kit option for IBM System x3650 M3 which allows customers to replace four existing hot-swap disk drive bays with the USB tape drive. The enablement kit includes a bezel and assembly to covert the drive to a 3.5-inch tape drive.

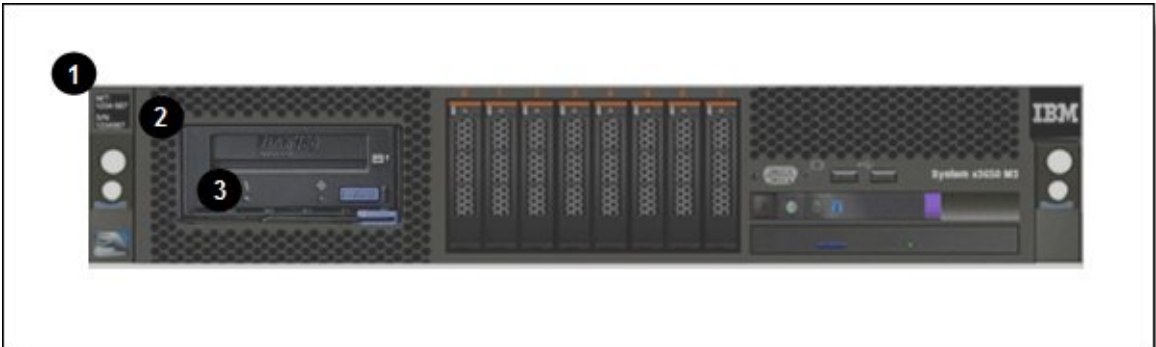


Figure 6. The DDS Generation 6 USB Tape Drive installed internally in an x3650 M3 server

Table 5 lists the parts that are used.

Table 5. Components that are used when installing DDS Generation 6 USB Tape Drive into x3650 M3 server

Diagram reference	Part number/ machine type	Description	Quantity
1	7945	x3650 M3	1
2	59Y3806	Tape Enablement Kit option for IBM System x3650 M3	1
3	39M5636	DDS Generation 6 USB Tape Drive	1

Installation in a 1U external enclosure

Figure 7 shows the DDS Generation 6 USB Tape Drive installed in an IBM 1U Tape Drive External Enclosure and connected to a System x server.

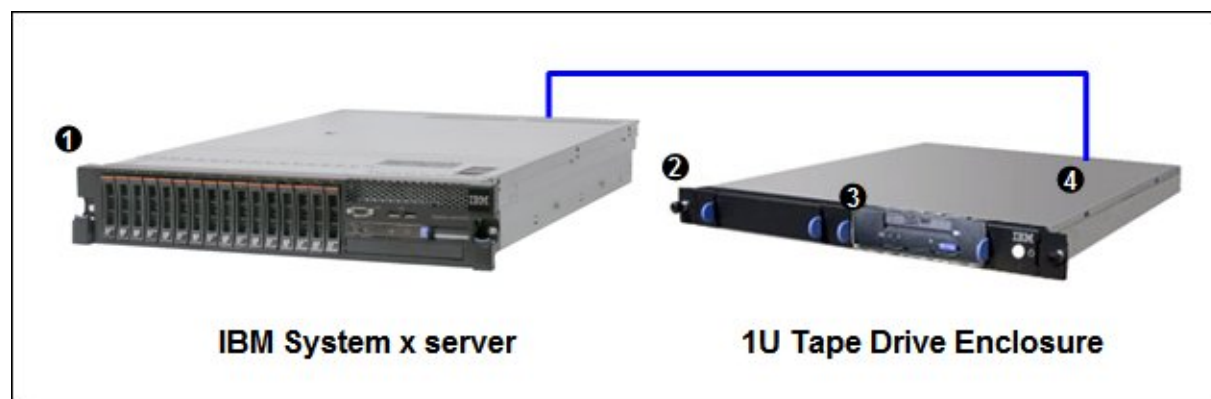


Figure 7. The DDS Generation 6 USB Tape Drive installed in an IBM 1U Tape Drive External Enclosure and connected to x3650 M3 server

Table 6 lists the parts that are used.

Table 6. Components used when connecting DDS Generation 6 USB Tape Drive installed in external tape drive enclosure to x3650 M3 server

Diagram reference	Part number/ machine type	Description	Quantity
1	Varies	Supported System x server	1
2	44E8869	USB Enclosure Adapter Kit	1 per drive
3	39M5636	DDS Generation 6 USB Tape Drive	1
4	87651UX	IBM 1U Tape Drive External Enclosure	1

Supported operating systems

The DDS Generation 6 USB Tape Drive supports the following operating systems:

- Microsoft Windows Server 2003 (x64)
- Microsoft Windows Server 2003 (x86)
- Microsoft Windows Server 2008 (x64)
- Microsoft Windows Server 2008 (x86)
- Microsoft Windows Server 2008 R2 (x64)
- Microsoft Windows Vista (x64)
- Microsoft Windows Vista (x86)
- Microsoft Windows XP (x64)
- Microsoft Windows XP (x86)
- Novell Open Enterprise Server
- Novell Open Enterprise Server 2
- Oracle Enterprise Linux 4 (x64)
- Oracle Enterprise Linux 4 (x86)
- Oracle Enterprise Linux 5 (x64)

- Oracle Enterprise Linux 5 (x86)
- Red Hat Enterprise Linux 4 (x64)
- Red Hat Enterprise Linux 4 (x86)
- Red Hat Enterprise Linux 5 (x64)
- Red Hat Enterprise Linux 5 (x86)
- Sun Solaris 10 (x64)
- Sun Solaris 10 (x86)
- SUSE Linux Enterprise Server 9 (x64)
- SUSE Linux Enterprise Server 9 (x86)
- SUSE Linux Enterprise Server 10 (x64)
- SUSE Linux Enterprise Server 10 (x86)
- SUSE Linux Enterprise Server 11 (x64)
- SUSE Linux Enterprise Server 11 (x86)

Related publications

For more information, refer to the following resources:

- DDS Generation 6 USB Tape Drive overview
<http://www-03.ibm.com/systems/storage/tape/ddsgen6/index.html>
- DDS Generation 6 USB Tape Drive specifications
<http://www-03.ibm.com/systems/storage/tape/ddsgen6/specifications.html>
- DDS Generation 6 USB Tape Drive User's Guide
<http://www.ibm.com/support/docview.wss?uid=psg1MIGR-5073993>
- Installation Guide for IBM 1U Rackmount Tape Enclosure
<http://www.ibm.com/support/docview.wss?uid=psg1MIGR-64787>
- Installation Guide for IBM 4U Rackmount Tape Enclosure
<http://www.ibm.com/support/docview.wss?uid=psg1MIGR-64794>
- Installation Guide for IBM Half High Tabletop Tape Enclosure
<http://www.ibm.com/support/docview.wss?uid=psg1MIGR-64792>
- Installation Guide for DDS Tape Enablement Kit
<http://www.ibm.com/support/docview.wss?uid=psg1MIGR-5072866>
- System x tape software matrix
<http://www.ibm.com/support/docview.wss?uid=psg1TAPE-FILES>
- IBM US Announcement Letter for the DDS Generation 6 USB Tape Drive
<http://ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=ca&&htmlfid=897/ENUS108-086>
- IBM US Announcement Letter for the DDS Generation 6 media
<http://ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=ca&&htmlfid=897/ENUS108-351>

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